Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of claims:

1 – 51 (Canceled).

52. (Previously Presented) A ring network for transporting data packets between network devices, the ring network comprising:

a number of ring switches, each ring switch having at one ring port, at least one local port and at least one table that is adapted to self learn which network devices are associated with each port of the ring switch based on source addresses of packets processed by the ring switch;

the at least one ring port of each ring switch being coupled to a ring port of another ring switch in the ring network;

wherein the ring switch switches data packets between its ring and local ports to direct the data packets to specified network devices associated with the at least one local port of the ring switches in the ring network; and

wherein the ports of the ring switches are configured such that data packets received at the at least one ring port and the at least one local port that are not destined for a network device associated with the at least one local port of the ring switch are switched to another ring switch on the ring network based on the at least one address table without the use of a token or encapsulating the packet.

53. (Previously Presented) The ring network of claim 52, wherein the ring switches each include a ring-in and a ring-out port.

54. (Previously Presented) The ring network of claim 53, wherein the ring switches are adapted to store source addresses for data packets received at the ring-in port of a ring switch in the at

least one address table with an indication that data packets destined for the source address should be transmitted out the ring-out port of the ring switch.

55. (Previously Presented) The ring network of claim 52, wherein the ring switches each include a single, bi-directional ring port that allows data packets received at the bi-directional ring port to be retransmitted out the ring port of the switch so that data packets can be forwarded on to other ring switches in the ring network without the use of a token or encapsulating the data packets.

56. (Previously Presented) The ring network of claim 52, and further including a number of ring transceivers coupled to form a ring, wherein the ring switches are coupled to the ring transceivers.

57. (Previously Presented) The ring network of claim 52, wherein the ring switches are coupled by conductors on a printed circuit board.

58. (Previously Presented) The ring network of claim 52, wherein the at least one local port for at least one of the ring switches includes at least one of a token ring port, an Ethernet port, and a Fiber Distributed Data Interface (FDDI) port.

59. (Previously Presented) The ring network of claim 52, wherein the at least one local port for at least one of the ring switches includes at least one of a data transfer path and a PCI interface.

60. (Previously Presented) The ring network of claim 52, wherein the ring switches each include a single address table for-identifying the addresses of network devices associated with the at least one ring port and the at least one local port of the ring switch.

61. (Previously Presented) A ring network comprising:

multiple ring switches, each ring switch having at least one ring port and at least one local port;

each ring switch having at least one address table that is adapted to self learn which network devices are associated with each port of the ring switch based on source addresses of data packets processed by the ring switch; and

wherein data packets received at a ring port that are not destined for a network device associated with a local port of the ring switch are switched to another ring switch based on the at least one address table without the use of a token or encapsulating the data packet.

62. (Previously Presented) The ring network of claim 61, wherein the ring switches each include a ring-in and a ring-out port.

63. (Previously Presented) The ring network of claim 62, wherein the ring switches are adapted to store source addresses for data packets received at the ring-in port of a ring switch in the at least one address table with an indication that data packets destined for the source address should be transmitted out the ring-out port of the ring switch.

64. (Previously Presented) The ring network of claim 61, wherein the ring switches each include a single, bi-directional ring port that allows data packets received at the bi-directional ring port to be retransmitted out the ring port of the switch so that data packets can be forwarded on to other ring switches in the ring network without the use of a token or encapsulating the data packets.

65. (Previously Presented) The ring network of claim 61, wherein the ring switches are coupled by conductors on a printed circuit board.

66. (Previously Presented) The ring network of claim 61, wherein the at least one local port for at least one of the ring switches includes at least one of a token ring port, an Ethernet port, and a Fiber Distributed Data Interface (FDDI) port.

67. (Previously Presented) A ring switch for a ring network, the ring switch comprising:

at least one ring port that is coupleable to transport data packets in a ring network;

at least one local port that is coupleable to at least one local area network or device;

at least one address table that is adapted to track the addresses of network devices associated with each port of the ring switch based on source addresses of data packets received at the ports of the ring switch; and

wherein data packets received at the at least one ring port that are not destined for a network device associated with any of the at least one local ports of the ring switch are switched to another ring switch coupled to the at least one ring port based on the at least one address table without the use of a token or encapsulating the packet.

68. (Previously Presented) The ring switch of claim 67, wherein the ring switch includes a circuit that is adapted to use the source address of data packets entering a ring-in port to create entries in the at least one address table for a ring-out port for use in switching data packets.

69. (Previously Presented) The ring switch of claim 67, wherein the at least one ring port of the ring switch comprises a single, bi-directional ring port that allows data packets received at the ring port to be retransmitted out of the ring port to other ring switches.

70. (Previously Presented) The ring switch of claim 67, wherein the at least one local port for the ring switch includes at least one of a token ring port, an Ethernet port, and a Fiber Distributed Data Interface (FDDI) port.

71. (Previously Presented) A ring switch for a ring network, the ring switch comprising:

a bi-directional ring port that is coupleable to receive data packets from and transmit data packets over a ring of ring switches;

at least one local port that is coupleable to at least one local area network;

at least one address table that is adapted to self learn and store the addresses of network devices associated with the at least one bi-directional ring port and the at least one local port based on source addresses from data packets processed by the ring switch; and

wherein the ring switch allows data packets received at the ring port to be retransmitted out the ring port of the switch so that data packets can be forwarded on to other ring switches in the ring network based on the at least one address table without the use of a token or encapsulating the packet.

72. (Previously Presented) The ring switch of claim 71, wherein at least one of the at least one local ports is configured as a token ring port, an Ethernet port, and a Fiber Distributed Data Interface (FDDI) port.

73. (Previously Presented) A ring switch for a ring network, the ring switch comprising:

a ring-in port that is coupleable to receive data packets from the ring network;

a ring-out port that is coupleable to provide data packets to the ring network;

at least one local port that is coupleable to a local area network;

at least one address table that is adapted to track the addresses of network devices associated with the ports of the ring switch; and

wherein the address table is adapted to associate the addresses of network devices with the ring-out port when data packets are received at the ring-in port.

74. (Previously Presented) The ring switch of claim 73, wherein the at least one local port includes a local port configured as a token ring port, an Ethernet port, and a Fiber Distributed Data Interface (FDDI) port.

75. (Previously Presented) A method for processing data packets in a ring switch of a ring network, the method comprising:

placing data packets on the ring network;

selectively modifying at least one table in each ring switch to identify network devices associated with each port of the ring switch when data packets having unknown source identifier are processed;

selectively switching the data packets around the ring network by comparing a destination identifier in the data packets with the at least one table; and

removing data packets from the ring at a local port of the ring switch when a destination identifier in the data packets indicate that the destination network device is located on a local port of the ring switch.

76. (Previously Presented) The method of claim 75, wherein switching the data packets around is done without use of a token or encapsulating the data packets.

77. (Previously Presented) A method for processing data packets in a ring switch of a ring network, the method comprising:

receiving a data packet at a bi-directional ring port of the ring switch;

reading the source address of the data packet;

when the source address is not in an address table for a port of the ring switch, storing the source address in at least one address table with an indication that the address is for a network device associated with the ring port;

reading a destination address from the data packet; and

when the destination address for the data packet is in an address table for the ring switch, switching the data packet to the port of the ring switch that is associated with the destination address, even if the data packet was received at the ring port and the destination address is associated with the ring port without using a token or encapsulating the data packet.

78. (Previously Presented) The method of claim 77, and further comprising the step of broadcasting the data packet to all ports of the ring switch when the destination address for the

data packet is not in an address table for the ring switch or the data packet is a broadcast data packet.

79. (Previously Presented) The method of claim 77, and further comprising the step of broadcasting the data packet to all appropriate ports of the ring switch when the destination address for the data packet is a multicast address.

80. (Previously Presented) A method of routing signals in a network, the method comprising:

placing data packets on a ring network that includes ring switches that each are adapted to self learn the location of network devices associated with the network as packets with unknown source addresses are processed by the ring switches; and

selectively switching the data packets around and off the ring network based on identifiers of the data packets that identify a destination network of the system.

81. (Previously Presented) The method of claim 80, wherein the self learning of the location of network devices further comprise the steps of storing the source address of each data packet in at least one address table with an indication that the address is for a network device associated with a ring port.

82. (Previously Presented) The method of claim 81, wherein removing the data packets off the ring network further comprises the steps of removing the data packet from the ring network when the source address is in the address table with an indication that the network device is associated with a local port.

83. (Previously Presented) A method for building an address table for a port of a first ring switch in a ring network of a plurality of ring switches, the method comprising:

receiving a data packet at a first port of the first ring switch;

reading the source address from the data packet; and

storing the source address in an address table for the first ring switch that indicates that the data packet originated from a network device, not including another of the plurality of ring switches, associated with a second, different port of the first ring switch so as to allow unidirectional transmission on the ring network.

84. (Previously Presented) The method of claim 83, wherein the step of reading a source address comprises the step of reading a source address from an Ethernet packet.

85. (Previously Presented) The method of claim 83, wherein the step of storing the source address in an address table comprises the step of storing the source address for the data packet in a single address table with a multi-bit signal indicating the port associated with the source address.

86. (Previously Presented) A method for routing data packets in a plurality of ring switches in a ring network, the method comprising:

receiving a data packet at a first ring port of at least one ring switch of the plurality of ring switches in a ring network;

reading a destination address from the data packet; and

routing the data packet in reference to an address table for the at least one ring switch such that if the destination address of the data packet is associated with a network device that is local to the at least one ring switch, the data packet is transmitted out one or more local ports of the at least one ring switch, otherwise, if the destination address of the data packet is not associated with a network device that is local to the at least one ring switch, the data packet is transmitted out a second ring port of at least one ring switch so as to allow unidirectional transmission on the ring network.

87. (Previously Presented) The method of claim 86, wherein the first ring port of the at least one ring switch and the second ring port of the at least one ring switch are a single bi-directional ring port.

88. (Previously Presented) The method of claim 86, wherein receiving the data packets and routing the data packets are done without use of a token or encapsulating the data packets.

89. (Previously Presented) The method of claim 86, wherein the plurality of ring switches are coupled by one of conductors on a printed circuit board, fiber optic lines, co-axial cable, and wire conductors.

90. (Previously Presented) The method of claim 86, further comprising:

discarding the data packet when a source address corresponds to a network device that is associated with a local port of the at least one ring switch.

91. (Previously Presented) The method of claim 86, further comprising:

discarding the data packet when a ring switch ID that is appended, prepended, or added to the data packet corresponds to the ring switch ID of the at least one ring switch.

92. (Previously Presented) The method of claim 86, further comprising:

discarding the data packet when a counter that is appended, prepended, or added to the data packet exceeds a specified value, wherein the counter is incremented as the data packet traverses the ring network.

93. (Previously Presented) A ring switch for a ring network, the ring switch comprising:
at least one ring port that is coupleable to transport data packets in a ring network;

at least one local port that is coupleable to at least one local area network or device;

at least one address table that is adapted to track the addresses of network devices associated with each port of the ring switch based on source addresses; and

wherein data packets received at the at least one ring port that are destined for a network device associated with any of the at least one local ports of the ring switch based on the at least one address table are removed from the ring and switched out the local port.

94. (Previously Presented) The ring switch of claim 93, wherein data packets received at the at least one ring port that are not destined for a network device associated with any of the at least one local ports of the ring switch are switched to another ring switch coupled to the at least one ring port based on the at least one address table.

95. (Previously Presented) The ring switch of claim 93, wherein the at least one ring port of the ring switch is a single bi-directional ring port.

96. (Previously Presented) The ring switch of claim 93, wherein the at least one ring port of the ring switch further comprises a ring-in port and a ring-out port.

97. (Previously Presented) The ring switch of claim 93, wherein switching the data packets is done without use of a token or encapsulating the data packets.

98. (Previously Presented) The ring switch of claim 93, wherein the at least one ring port of the ring switch is coupleable to the ring network by one of conductors on a printed circuit board, fiber optic lines, co-axial cable, and wire conductors.

99. (Previously Presented) The ring switch of claim 93, wherein the ring switch discards the data packet when a source address corresponds to a network device that is associated with a local port of the ring switch.

100. (Previously Presented) The ring switch of claim 93, wherein the ring switch discards the data packet when a ring switch ID that is appended, prepended, or added to the data packet corresponds to the ring switch ID of the ring switch.

101. (Previously Presented) The ring switch of claim 93, wherein the ring switch discards the data packet when a counter that is appended, prepended, or added to the data packet exceeds a specified value, wherein the counter is incremented as the data packet traverses a ring network.

102. (Previously Presented) A ring network comprising:

multiple ring switches, communicatively coupled by a plurality of segments to form a ring, each ring switch having at least one ring port and at least one local port;

each ring switch having at least one address table that associates which network devices are associated with each port of the ring switch; and

wherein data packets received at a ring port that are destined for a network device associated with a local port of the ring switch are switched off the ring based on the at least one address table so as to free up downstream bandwidth on the plurality of segments to allow unidirectional transmission on the ring network with increased capacity.

103. (Previously Presented) The ring network of claim 102, wherein the multiple ring switches each include a ring-in and a ring-out port.

104. (Previously Presented) The ring network of claim 102, wherein the ring switches each include a single, bi-directional ring port that allows data packets received at the bi-directional ring port to be retransmitted out the ring port of the switch so that data packets can be forwarded on to other ring switches in the ring network.

105. (Previously Presented) The ring network of claim 102, wherein switching the data packets is done without use of a token or encapsulating the data packets.

106. (Previously Presented) The ring network of claim 102, wherein at least one ring switch of the ring network discards the data packet when a source address corresponds to a network device that is associated with a local port of the ring switch.

107. (Previously Presented) The ring network of claim 102, wherein at least one ring switch of the ring network discards the data packet when a ring switch ID that is appended, prepended, or added to the data packet corresponds to the ring switch ID of the ring switch.

108. (Previously Presented) The ring network of claim 102, wherein at least one ring switch of the ring network discards the data packet when a counter that is appended, prepended, or added to the data packet exceeds a specified value, wherein the counter is incremented as the data packet traverses a ring network.

109. (Canceled).

110. (Currently Amended) The method of claim 112~~109~~, wherein receiving the data packets and transmitting the data packets are done without use of a token or encapsulating the data packets.

111. (Currently Amended) The method of claim 112~~10~~9, wherein the ring-in port and the ring-out port are a single bi-directional ring switch port.

112. (Currently Amended) ~~The method of claim 109, further comprising:~~ A method for operating a ring switch of a ring network, the method comprising:

receiving data packets from the ring network at a ring-in port of a ring switch;

routing the data packets that are destined for a network device associated with at least one local port of the ring switch to the at least one local port;

routing the data packets that are not destined for a network device associated with the at least one local port to a ring-out port;

transmitting the data packets from the ring-out port to another ring switch;

comparing a source address from the data packet with at least one address table of the ring switch, wherein the at least one address table indicates which addresses are associated with each port of the switch; and

when the source address is not in the address table, associating the source address with the ring-out port in the address table.

113. (Currently Amended) ~~The method of claim 109, further comprising:~~ A method for operating a ring switch of a ring network, the method comprising:

receiving data packets from the ring network at a ring-in port of a ring switch;

routing the data packets that are destined for a network device associated with at least one local port of the ring switch to the at least one local port;

routing the data packets that are not destined for a network device associated with the at least one local port to a ring-out port;

transmitting the data packets from the ring-out port to another ring switch; and

discarding the data packet when a source address corresponds to a network device that is associated with a local port of the ring switch.

114. (Currently Amended) ~~The method of claim 109, further comprising:~~ A method for operating a ring switch of a ring network, the method comprising:

receiving data packets from the ring network at a ring-in port of a ring switch;

routing the data packets that are destined for a network device associated with at least one local port of the ring switch to the at least one local port;

routing the data packets that are not destined for a network device associated with the at least one local port to a ring-out port;

transmitting the data packets from the ring-out port to another ring switch; and

discarding the data packet when a ring switch ID that is appended, prepended, or added to the data packet corresponds to the ring switch ID of the ring switch.

115. (Currently Amended) ~~The method of claim 109, further comprising:~~ A method for operating a ring switch of a ring network, the method comprising:

receiving data packets from the ring network at a ring-in port of a ring switch;

routing the data packets that are destined for a network device associated with at least one local port of the ring switch to the at least one local port;

routing the data packets that are not destined for a network device associated with the at least one local port to a ring-out port;

transmitting the data packets from the ring-out port to another ring switch; and

discarding the data packet when a counter that is appended, prepended, or added to the data packet exceeds a specified value, wherein the counter is incremented as the data packet traverses the ring switch.

116. (Canceled).